

REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claim 18 has been amended to depend from Claim 17. New Claims 24-26 correspond to Claims 15, 17 and 18 except for their dependencies.

Claims 13 and 23 have been amended to further recite that the pressing of the peripheral region of the superposed glass sheets between the male former and the female former clamps together the edges of the glass sheets to seal the space between the sheets. Basis for this is found at lines 3-27 of page 6. As is there described, the partial vacuum thereafter applied to the upper one of the sheets is thereby effectively communicated, through the passage between the male former and the surrounding skirt, to the lower sheet(s) of the stack so that the sheets are securely held together and air bubbles between the sheets are minimized.

Claims 13-18, 20, 21 and 23 were rejected under 35 U.S.C. § 103 as being obvious over Herrington in view of Kuster et al. This rejection is respectfully traversed.

It is a feature of the claimed invention that, in a process for forming bent glass sheets, two or more superposed glass sheets which have been allowed to sag under gravity are advanced on a female former to a male former surrounded by a passage between the male former and a surrounding skirt. The glass sheets are pressed at their peripheral region between the female former and the male former while a partial vacuum is applied through the male former, wherein the glass sheets are continuously supported by the female former prior to the pressing step and the application of the partial vacuum commences after the upper glass sheet has made contact with the male former. The partial vacuum is thereby effectively communicated to the lower sheet of the stack, which is sealed to the upper sheet at its edges, so that the sheets are securely held together.

Herrington is directed to the bending of a single glass sheet, e.g., for a satellite dish, or a single layer of a laminated automobile windshield. To this end, it provides upper and lower press members between which a glass sheet is pressed to bend the glass sheet. In particular, the upper mold member 29 can provide a negative air pressure to assist in the shaping of the glass sheet being carried by the ring shaped lower press member 30. The negative air pressure also assists in the *handling* of the glass sheet (col. 7, lines 23-25), which indicates that it is initiated before the glass sheet has contacted the upper mold member. For example, the description that the negative air pressure also assists in the handling of the glass sheet suggests that it is used to raise the glass sheet into contact with the upper mold member. In any case, there is no description in Herrington that the negative air pressure commences after the glass sheet has made contact with the upper mold member.

Of course, since Herrington only bends individual sheets of glass, it is not concerned with the problem that the invention addresses: assuring that the partial vacuum from the upper press member is communicated to a lower sheet of superposed glass sheets. Nor does it teach the claimed solution to this problem: applying the vacuum after the upper glass sheet has made contact with the male former, so that the partial vacuum is effectively communicated, through the passage between the male former and the surrounding skirt, to the lower sheet(s) of the stack.

Applicants note that the Office Action has deemed that Herrington teaches the bending of multiple sheets at once (col. 4, lines 28-35). However, that portion of Herrington merely describes that the disclosed embodiment is adaptable to the bending of a glass sheet to be incorporated into a laminate having multiple layered sheets of glass – not the simultaneous bending of plural sheets. This is evident from the fact that only a single sheet (the singular term “sheet” is used) in the “Summary of the Invention” at lines 37-61 of col. 3.

The Office Action has correctly recognized that that Herrington does not teach the claimed feature that the male former is surrounded by a passage between the male former and a surrounding skirt. As noted above, this aids in communicating the partial vacuum to the lower sheet(s) of the stack.

Significantly, moreover, the Office Action has not identified a teaching in Herrington that the application of the partial vacuum commences after the glass sheet has made contact with the male former; the Office Action instead only asserts that Herrington teaches that the partial vacuum is applied during the bending step. In fact, as noted above, there is also no teaching in Herrington that the application of the partial vacuum commences after the glass sheet has made contact with the male former. Indeed, the partial vacuum is described as assisting in the “handling” of the glass sheets, which handling could include the transport of the sheet to the upper bending mold.

Nor can Kuster et al provide teachings for overcoming this shortcoming of Herrington. Kuster et al provides a vacuum before the glass sheets have reached the upper bending mold in order to raise the sheets from the lower bending ring. Of course, the edges of the sheets in Kuster et al have not yet then been pressed between the upper and lower molds, and no seal therebetween will be formed, whereby the vacuum may not effectively be communicated to the lower sheet. Thus, Kuster et al similarly cannot teach pressing the peripheral region of superposed glass sheets between male and female formers to clamp together the edges of the glass sheets and seal the space between the sheets, whereby a partial vacuum thereafter applied to the upper one of the sheets is effectively communicated to the lower sheet(s) of the stack. The claims are therefore believed to define over this prior art.

Dependent Claim 15 further recites that, during the step of applying the partial vacuum through the male former, positive gas pressure is applied through the male former in a central region of the glass sheets, wherein the male former is covered with a fibrous

material. This is described beginning at line 3 of page 12 and is shown in Fig. 6. In this case, the positive gas pressure produces a thin cushion of air that is laterally diffused in the felt material and reduces the contact pressure between the upper sheet and the male convex former, which reduces the risk of the glass being marked by the contact.

According to the Office Action, Herrington discloses maintaining a negative pressure “for a time to bend the glass sheet ... and then connecting the male mold to a positive pressure to aid in releasing the glass sheet.” It is respectfully submitted, however, that this rejection was based on a misreading of Claim 15 insofar as it does not address the recitation of the claims that the positive pressure is applied “*during* the step of applying the partial vacuum.”

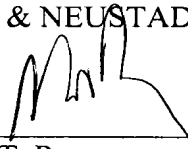
Claim 15 recites that the positive gas pressure is applied *during* the step of applying the partial vacuum. This reduces the risk of the glass being marked by contact. On the other hand, there is apparently no dispute that the positive pressure in Herrington is applied *after* the vacuum is discontinued (col. 7, lines 33-36). Thus, there appears to be no dispute that the “*during* the step of applying the partial vacuum” feature of the claims is not taught in Herrington. Since Kuster et al was not applied to teach the positive gas pressure feature, it is respectfully submitted that the claims define over any of the cited prior art.

Morin was additionally cited (paragraph 3 of the Office Action), in combination with Herrington and Kuster, to reject Claims 19 and 22. However, since Morin was not applied to teach the features of the main claims, it is respectfully submitted that the claims also define over this prior art.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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